

Volatility Pairs Trading – Preparing for the Statistical Backtest

We have done a visual backtest using TradingView and it seems promising enough for us to move on to the next step.

In the next step, we will use simple statistics to test the potential of our strategy.

Goal

Our goal is to backtest our Volatility Pairs Trading Strategy.

The general idea of a backtest is to run through past prices and hypothetically fire trades based on our trading rules.

Strategy Overview

If VX (asset1) and FVS (asset2) diverge (i.e move away) from each other, we make a bet that they come back to each other.

Trading Rules

We will keep this simple.

- If the daily divergence of asset1 and asset2 is 50%¹ larger than the average divergence^[1], enter a trade.
- Close this trade the next day, regardless of profit or losses

[1] Average divergence is defined as the average divergence of the last 20 trading days.

Analysis Framework

Steps:

1. Download data
2. Set date as index
3. Plot data to get an overview
4. Calculate percentage change
5. Calculate divergence
6. Plot divergence
7. Find absolute divergence
8. Find absolute average divergence
9. Check if divergence is 50% more than average divergence
10. If yes, enter a trade. Close the day the next day regardless of profit or losses.
11. Check our Profits!

We will cover these steps in detail in the next lecture.

¹ The 50% is an arbitrary number.